Next step for DHIS2

Abyot Asalefew
Global HISP

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Introduction

- DHIS2
  - An HMIS that helps to collect and analyze routine reports circulating in a health management structure of a country – typically developing country
  - The routine reports are based on aggregate data from secondary sources
    - Information gap

Information Gap

- Gap between the actual data (Primary Register) and the aggregate (DHIS2) data
  - Results in
    - Compromise
      - data quality
      - efficiency
    - Duplication
- Filling the gap → Next step for DHIS2
  - Automating sources of data for aggregate figures

Sources for aggregate data

- Registers
  - Immunization
  - Birth
  - Death
  - ANC
  - FP
  - TB
  - Malaria
  - Chronic Morbidity
  - ...

Medical Records

- Automating registers
  - Electronic Health/Medical Record
  - Very complex and challegnging especially in the context of developing country

- EMR ... e.g. OpenMRS
  - Hospital/Clinic based system
    - Individuals coming to Hospital/Clinic

Hospital/Clinic based Systems

- Context of developing country
  - Percentage of population with access to clinic
    - Ethiopia = 80% of population living in rural areas
    - India = ??
  - Issue of
    - Distance
      - A clinic within a radius of hundreds of Kilometers
    - Infrastructure
      - Poor transportation means
    - Cost
      - Expensive for poor farmers to travel hundreds of kilometers
- Further question to ask
  - From where is the poor health data coming from?
    - Rural areas !!

- Addressing the rural community ➜ community-based systems

Community-based systems

- Service reaching a community
  - Service providers going house-to-house based on houseno and names
    - ANM - India
    - HEW - Ethiopia
    - …
      - ➔ high degree of mobility !!
- Typical community-based systems
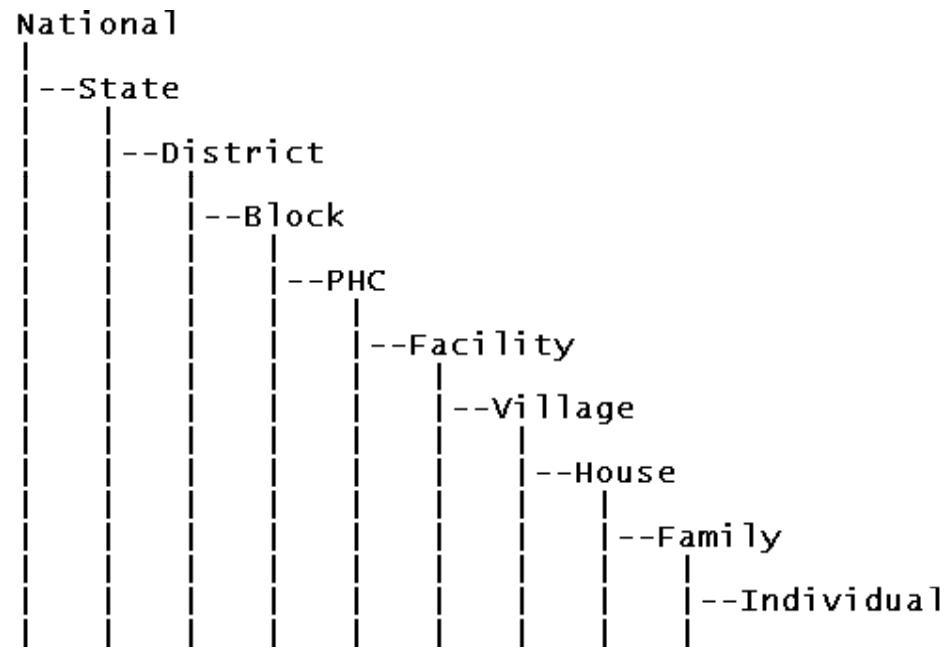 - Family Planning
  - ANC
  - Immunization
  - …

Community-based systems

- Automating community-based systems
  - Locating/tracking individuals
  - Planing ahead
  - Outreaching

Locating/tracking Individuals

- Hierarchical approach – with a village/community as an entry point

```
National
|
|--State
|   |
|   |--District
|   |   |
|   |   |--Block
|   |   |   |
|   |   |   |--PHC
|   |   |   |   |
|   |   |   |   |--Facility
|   |   |   |   |   |
|   |   |   |   |   |--Village
|   |   |   |   |   |   |
|   |   |   |   |   |   |--House
|   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |--Family
|   |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |--Individual
|   |   |   |   |   |   |   |   |
```

- Identifcation mechanism – Name? Unique ID?...
- Issue of migration

Planning

- Actvity planning
  - What service to provide?
    - FP, ANC, Immunization, ..
  - Where to go?
    - Which village?
      - Which house no?
  - For whom to provide service?
    - Individual ... Identifying with name?

➔ Mobile Technology playing a key role
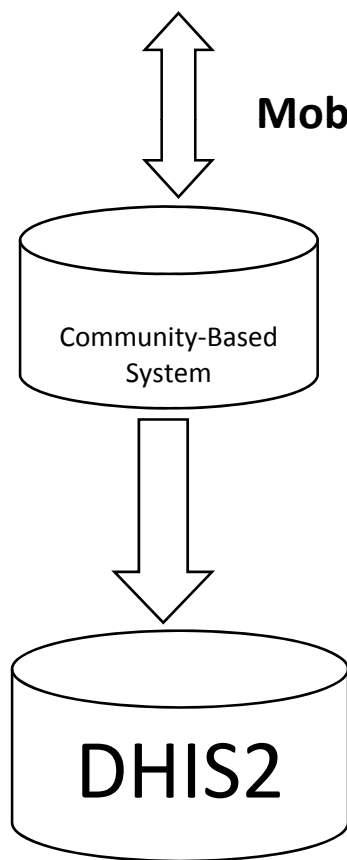
Outreaching

- ANM/HEW/... Community Health Workers
  - At the village
    - Providing service as per the plan
    - Collecting information
    - ...
  - At the facility
    - Compiling information
    - Synchronization
- Possibility to assist health workers
  - handheld devices / mobile information systems

Assisting health workers

- Handheld device
  - Guiding health worker with activity plan
    - No need to carry activity paper … may be as a backup!
  - Enabling health workers refer history?
  - Enabling health workers collect digital data
    - Easy complilation
    - Easy synchornization
    - Improved level of accuracy
      - No back-logs
      - validation

The whole picture

Mobile Information System

Community-Based System

DHIS2

Name of Child Born for Mother/Father Name	Village	Sex	Approx Date of birth	Weight(in gms) or NK	Breast feeding in first hour (Y/N/NK)
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		---			---
		---			---

57.2	Births	
(a)	Male	
(b)	Female	
	Total {(a) to (b)}	